Docket No.: OKA-0020
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Tadayoshi Iijima

Application No.: 09/747,955 | Confirmation No.: 3185

Filed: December 27, 2000 | Art Unit: 1794

For: FUNCTIONAL FILM AND METHOD FOR PRODUCING THE SAME | Examiner: Monique R. Jackson

REVISED APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

As required under 37 C.F.R. §41.66(a), this brief is filed within the statutory term of the Notice of Appeal filed in this case on May 27, 2008, and is in furtherance of said Notice of Appeal.

The fees required under 37 C.F.R. §41.20(b)(2), and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains items under the following headings as required by 37 C.F.R. §41.67 and §1205.02 of the MPEP:

I.	Real Party in Interest
II	Related Appeals and Interferences
III.	Status of Claims
IV.	Status of Amendments After Final
V.	Summary of Claimed Subject Matter
VI.	Grounds of Rejection to be Reviewed on Appeal

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is TDK Corporation of Tokyo, Japan. An assignment of all rights in the present application to TDK Corporation has been submitted and recorded by the U.S. Patent and Trademark Office at Reel 011396, Frame 0854.

II. RELATED APPEALS AND INTERFERENCES

There is a pending appeal which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal. The pending appeal is Patent Application No. 09/748,188, the appeal of which is currently pending and has not yet been decided by the Board of Patent Appeals and Interferences.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 34 total claims in this application.

B. Current Status of Claims

1. Claims canceled: Claims 4-16, 19, 20, 23, 27, 31 and 32

2. Claims withdrawn from consideration but not canceled: None

3. Claims pending: Claims 1-3, 17, 18, 21, 22, 24-26, 28-30, 33 and 34

4. Claims allowed: None

5. Claims rejected: Claims 1-3, 17, 18, 21, 22, 24-26, 28-30, 33 and 34

C. Claims on Appeal

The claims on appeal are claims 1-3, 17, 18, 21, 22, 24-26, 28-30, 33 and 34

IV. STATUS OF AMENDMENTS AFTER FINAL

Applicant filed an Amendment with a One Month Extension of Time in response to a non-final Office Action on September 4, 2007. The Examiner responded to the Amendment with a Final Office Action mailed November 28, 2007 which is the subject of this Appeal since the claims of the present application have been twice rejected by the Examiner. Applicant notes that no Amendment was filed in response to the Final Office Action mailed November 28, 2007.

Accordingly, the claims enclosed herein in Appendix A are directed to claims 1-3, 17, 18, 21, 22, 24-26, 28-30, 33 and 34 which were presented in Applicant's amendment filed September 4, 2007.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to a functional film as defined in **claim 1** comprising a support and a compressed layer of functional fine particles in contact with the support *(see page 10, lines 22-24, of the specification)*. The compressed layer is obtained by compressing a layer containing the functional fine particles that is formed by application onto the support with a compression force of at least 44 N/mm^2 together with the support *(see page 11, lines 11-13, of the specification)*, at a temperature of not less than an ordinary temperature and below a glass transition temperature of said support *(see page 29, lines 21-24, and page 30, lines 11-13, of the*

specification). The functional film is selected from the group consisting of a magnetic film, a ferromagnetic film, a dielectric film, a ferroelectric film, an electrochromic film, an electroluminescent film, an insulating film, a light-absorbing film, a light selecting absorbing film, a reflecting film, a reflection preventing film, a catalyst film and a photocatalyst film *(see page 11, lines 14-20, of the specification*), and the support is selected from the group consisting of polyethylene terephthalate film, polyethylene film, polypropylene film, polycarbonate film, acrylic film, and norbornene film *(see page 24, line 23, to page 25, line 2, of the specification*). The functional fine particles have a particle diameter of 1.0 μm or less *(see page 34, lines 15-16, of the specification*).

The present invention also relates to a conductive film as defined in **claim 17** comprising a support and a compressed layer of conductive fine particles formed by application to be in contact with the support *(see page 12, lines 3-7, of the specification*). The compressed layer of conductive fine particles is obtained by compressing a layer containing the conductive fine particles and optionally a binder resin in an amount of less than 3.7 parts by volume with respect to 100 parts by volume of said conductive fine particles *(see page 22, lines 20-24, of the specification*) onto the support with a compression force of at least 44 N/mm^2 together with the support *(see page 12, lines 23-25, of the specification*), at a temperature of not less than an ordinary temperature and below a glass transition temperature of said support *(see page 29, lines 21-24, and page 30, lines 11-13, of the specification*). The support is selected from the group consisting of polyethylene terephthalate film, polyethylene film, polypropylene film, polycarbonate film, acrylic film, and norbornene film *(see page 24, line 23, to page 25, line 2, of the specification*), and the conductive fine particles have a particle diameter from not less than 5 nm to not more than 100 nm *(see page 34, lines 15-16, of the specification*).

Further, the present invention relates to a transparent conductive film as defined in **claim 24** comprising a support and a compressed layer of conductive fine particles formed by application to be in contact with the support *(see page 12, lines 3-7, of the specification*). The compressed layer of conductive fine particles is obtained by compressing a layer containing the conductive fine particles and no binder resin onto the support together with the support *(see page 22, lines 20-24, of the specification*), at a temperature of not less than an ordinary temperature and below a glass transition temperature of said support *(see page 29, lines 21-24, and page 30, lines 11-13, of the specification*), and then being impregnated with a transparent substance after compression *(see page 14, lines 8-9, of the specification*). The support is selected from the group

consisting of polyethylene terephthalate film, polyethylene film, polypropylene film, polycarbonate film, acrylic film, and norbornene film *(see page 24, line 23, to page 25, line 2, of the specification*), and the conductive fine particles have a particle diameter from not less than 5 nm to not more than 100 nm *(see page 34, lines 15-16, of the specification*).

Lastly, the present invention relates to a conductive film as defined in **claim 29** comprising a support and a compressed layer of conductive fine particles in contact with the support *(see page 12, lines 3-7, of the specification*). The compressed layer is obtained by compressing a layer containing the conductive fine particles that is formed by application onto the support with a compression force of at least $44N/mm^2$ together with the support *(see page 12, lines 23-25, of the specification*), at a temperature of not less than an ordinary temperature and below a glass transition temperature of said support *(see page 29, lines 21-24, and page 30, lines 11-13, of the specification*). The support is selected from the group consisting of polyethylene terephthalate film, polyethylene film, polypropylene film, polycarbonate film, acrylic film, and norbornene film *(see page 24, line 23, to page 25, line 2, of the specification*), and the conductive fine particles have a particle diameter from not less than 5 nm to not more than 100 nm *(see page 34, lines 15-16, of the specification*).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1-3, 17, 18, 21, 22, 24-26, 28-30, 33 and 34 can be rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

2. Whether claims 1-3, 17, 18, 21, 22, 24-26, 28-30, 33 and 34 can be rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

VII. ARGUMENT

In the Office Action of November 28, 2007, the following rejections were presented by the Examiner:

(i) 35 U.S.C. §112, first paragraph

1. Whether claims 1-3, 17, 18, 21, 22, 24-26, 28-30, 33 and 34 can be rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

The Examiner has indicated that the recitation of "*a temperature of not less than an ordinary temperature*" is not supported in the specification and thus, fails to comply with the written description requirement. Applicant respectfully disagrees with the Examiner in this regard and submits that the original specification at the time of filing do provide support for the recitation of "*a temperature of not less than an ordinary temperature*."

Applicant wishes to direct the Examiner's and Board's attention to page 29, lines 21-24, of the original specification in which "*a temperature range below the glass transition temperature (secondary transition temperature)*" is disclosed. The description of "*a temperature range below the glass transition temperature (secondary transition temperature)*" indicates an upper temperature limit for the compression. Hence, "*an ordinary temperature*" on page 30, line 12 of the specification should be understood as the lower temperature limit for the compression. That is, the original specification discloses that the compression is carried out at "*a temperature of not less than an ordinary temperature*". As a result, Applicant believes that such teachings in the specification clearly supported the recitation of "*a temperature of not less than an ordinary temperature*."

Thus, withdrawal of this rejection is respectfully requested.

(ii) 35 U.S.C. §112, second paragraph

1. Whether claims 1-3, 17, 18, 21, 22, 24-26, 28-30, 33 and 34 can be rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner has argued that the recitation "*an ordinary temperature*" in claims 1, 17, 24 and 29 is a relative term which renders the claim indefinite. Applicant respectfully disagrees with the Examiner in this regard and submits that the recitation of "*an ordinary temperature*" is definite based on U.S. practice.

Section 2173.05(b) of the Manual of Patent Examining Procedure states that "*[T]he fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph*" citing *Seattle Box Co., v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984). The section further states that the "*[A]cceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification*".

Applicant believes that the recitation "*an ordinary temperature*" is understandable to one of ordinary skill in the art since the recitation is defined in the specification and is a well known and used technical term of art. On page 30, line 12, the specification defines the phrase "*an ordinary temperature*" as "*an environment suitable for human work*". In addition, Applicant searched the recitation in the USPTO Patent Full-Text and Full-Page Image Electronic Databases via the web link, **http://patft.uspto.gov/** by entering the search parameters, ACLM/"ordinary temperature", and found that the rejected recitation is often allowed in U.S. patent claims (resulting in 302 U.S. Patents when search was conducted).

Applicant submits that this search result clearly demonstrates that the recitation "*an ordinary temperature*" is a commonly used technical term of art in claims of U.S. Patents and that such recitation would be well understood to one skilled in the art. In other words, Applicant believes that one skilled in the art would clearly be able to ascertain the requisite degree of what constitute "*an ordinary temperature*" based on the knowledge in the art and the teachings of the specification *(see page 29, lines 21-24, and page 30, lines 11-13, of the specification and in particular, the definition of "an environment suitable for human work")* and thereby be reasonably apprised of the scope of the present invention.

Finally, regarding the Examiner's comments on page 2, line 19, to page 3, line 5, of the Office Action, Applicant wishes to explain and emphasize that there is no difference in practical meaning between "*the roll temperature*" and "*the compression temperature*" since the roll temperature is the compression temperature itself, because the compression is carried out by sandwiching a film between rotated rolls.

Thus, for these reasons, withdrawal of this rejection is respectfully requested.

(iii) 35 U.S.C. §102

None

(iv) 35 U.S.C. §103

None

(v) Other

None

VIII. CLAIMS APPENDIX

A copy of the claims involved in the present appeal is attached hereto as Appendix A.

IX. EVIDENCE APPENDIX

No evidence pursuant to §§1.130, 1.131, or 1.132 or entered by or relied upon by the Examiner is being submitted.

X. RELATED PROCEEDINGS APPENDIX

The related proceeding referenced in II. above has not resulted in a decision from the Board of Patent Appeals and Interferences. Thus, no copy of the decision in the related proceeding is being provided.

CONCLUSION

Applicant believes that no additional fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-4422, under Order No. OKA-0020 from which the undersigned is authorized to draw.

Dated: December 29, 2008

Respectfully submitted,

By:_____

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APPENDIX A

Claims Involved in the Appeal of Application Serial No. 09/747,955.

1. (Previously Presented) A functional film comprising:

a support and a compressed layer of functional fine particles in contact with the support,

said compressed layer obtained by compressing a layer containing the functional fine particles that is formed by application onto the support with a compression force of at least 44 N/mm^2 together with the support, at a temperature of not less than an ordinary temperature and below a glass transition temperature of said support,

said functional film being selected from the group consisting of a magnetic film, a ferromagnetic film, a dielectric film, a ferroelectric film, an electrochromic film, an electroluminescent film, an insulating film, a light-absorbing film, a light selecting absorbing film, a reflecting film, a reflection preventing film, a catalyst film and a photocatalyst film, said support being selected from the group consisting of polyethylene terephthalate film, polyethylene film, polypropylene film, polycarbonate film, acrylic film, and norbornene film,

said functional fine particles having a particle diameter of 1.0 μm or less.

2. (Original) The functional film according to claim 1, wherein said layer containing the functional fine particles is formed by applying a liquid in which the functional fine particles are dispersed onto the support and drying the liquid.

3. (Original) The functional film according to claim 1, wherein said functional fine particles are selected from inorganic fine particles.

17. (Previously Presented) A conductive film comprising:

a support and a compressed layer of conductive fine particles formed by application to be in contact with the support,

wherein said compressed layer of conductive fine particles is obtained by compressing a layer containing the conductive fine particles and optionally a binder resin in an

amount of less than 3.7 parts by volume with respect to 100 parts by volume of said conductive fine particles onto the support with a compression force of at least 44 N/mm^2 together with the support, at a temperature of not less than an ordinary temperature and below a glass transition temperature of said support,

said support being selected from the group consisting of polyethylene terephthalate film, polyethylene film, polypropylene film, polycarbonate film, acrylic film, and norbornene film,

wherein said conductive fine particles have a particle diameter from not less than 5 nm to not more than 100 nm.

18. (Previously Presented) The conductive film according to claim 17, wherein said layer containing the conductive fine particles is formed by applying a liquid in which the conductive fine particles are dispersed onto the support and drying the liquid.

21. (Previously Presented) The conductive film according to claim 17, wherein said compressed layer of the conductive fine particles is impregnated with a transparent substance, whereby said conductive film has a function as a transparent conductive film.

22. (Previously Presented) The conductive film according to claim 17, wherein said conductive fine particles are inorganic conductive fine particles selected from the group consisting of tin oxide, indium oxide, zinc oxide, cadmium oxide, antimony-doped tin oxide (ATO), fluorine-doped tin oxide (FTO), tin-doped indium oxide (ITO) and aluminum-doped zinc oxide (AZO).

24. (Previously Presented) A transparent conductive film comprising a support and a compressed layer of conductive fine particles formed by application to be in contact with the support,

wherein said compressed layer of conductive fine particles is obtained by compressing a layer containing the conductive fine particles and no binder resin onto the support together with the support, at a temperature of not less than an ordinary temperature and below a glass transition temperature of said support, and then being impregnated with a transparent substance after compression,

said support being selected from the group consisting of polyethylene terephthalate film, polyethylene film, polypropylene film, polycarbonate film, acrylic film, and norbornene film,

said conductive fine particles having a particle diameter from not less than 5 nm to not more than 100 nm.

25. (Previously Presented) The transparent conductive film according to claim 24, wherein said layer containing the conductive fine particles is formed by applying a liquid in which the conductive fine particles are dispersed onto the support and drying the liquid.

26. (Previously Presented) The transparent conductive film according to claim 24, wherein said compressed layer of the conductive fine particles is obtained by compressing with a compression force of at least 44 N/mm^2.

28. (Previously Presented) The transparent conductive film according to claim 24, wherein said conductive fine particles are inorganic conductive fine particles selected from the group consisting of tin oxide, indium oxide, zinc oxide, cadmium oxide, antimony-doped tin oxide (ATO), fluorine-doped tin oxide (FTO), tin-doped indium oxide (ITO) and aluminum-doped zinc oxide (AZO).

29. (Previously Presented) A conductive film comprising:

a support and a compressed layer of conductive fine particles in contact with the support,

said compressed layer obtained by compressing a layer containing the conductive fine particles that is formed by application onto the support with a compression force of at least $44N/mm^2$ together with the support, at a temperature of not less than an ordinary temperature and below a glass transition temperature of said support,

said support being selected from the group consisting of polyethylene terephthalate film, polyethylene film, polypropylene film, polycarbonate film, acrylic film, and norbornene film, wherein said conductive fine particles have a particle diameter from not less than 5 nm to not more than 100 nm.

30. (Previously Presented) The conductive film according to claim 29, wherein said layer containing the conductive fine particles is formed by applying a liquid in which the conductive fine particles are dispersed onto the support and drying the liquid.

33. (Previously Presented) The conductive film according to claim 29, wherein said compressed layer of the conductive fine particles is impregnated with a transparent substance, whereby said conductive film has a function as a transparent conductive film.

34. (Previously Presented) The conductive film according to claim 29, wherein said conductive fine particles are inorganic conductive fine particles selected from the group consisting of tin oxide, indium oxide, zinc oxide, cadmium oxide, antimony-doped tin oxide (ATO), fluorine-doped tin oxide (FTO), tin-doped indium oxide (ITO) and aluminum-doped zinc oxide (AZO).